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10/521,036	08/23/2005	Franz Hauner	40045-23 US	4449
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EXAMINER				
SHEVIN, MARK L				
ART UNIT		PAPER NUMBER		
1793				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/521,036

Applicant(s)

HAUNER ET AL.

Examiner

Mark L. Shevin

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 8 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-8, and 21-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date 01/10/2006

DETAILED ACTION

Status

1. Claims 1-5, 7-8 and 21-30, of the preliminary amendment filed January 10th, 2005, are pending.

Priority

2. Applicant's claim to foreign priority of European Patent Office application 02405598.0, filed July 12th, 2002, is recorded.

Claim Rejections - 35 USC § 112 2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 23-30** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23-30 provides for the use of an electrical contact material, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

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4. **Claims 23-30** are similar rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Please see MPEP 2173.05(q) on "Use" claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1-5, 7-8, and 21-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hauner** (US 5,429,656) in view **Broverman** (US 3,641,298) and **Hutcherson** (US 5,233,143).

Hauner teaches silver-base contact materials for low-voltage switches with active refractory components such as iron oxide, rhenium oxide, and zirconium oxide

(Abstract). Hauner teaches the inclusion of between 1 and 50 wt% of iron oxide (Fe_2O_3 or Fe_3O_4) in a silver base with between 0.01 and 5 wt% of additional active components such as rhenium oxide, bismuth zirconate, boron oxide, or zirconium oxide (Col. 2, lines 13-31). Thus Hauner teaches an electrical contact material comprising a matrix made of a conductive metal (Ag) with a refractory fraction (Iron oxide), but does not teach the presence of an "unstable fraction having the property of decomposing between the operating temperature of the electrical contact and the metal point of said metal, with the release of gas capable of destabilizing an electric arc."

Broverman teaches an electrical contact material with a conductive metal such as copper, silver, iron, or nickel as the base (Col. 1, lines 67-75) with an unstable fraction of metal hydride such as titanium hydride (Col. 1, lines 36-41). Broverman teaches that metal hydrides release hydrogen yet Broverman does not teach this as "capable of destabilizing an electric arc."

Hutcherson teaches electrode devices with metal hydrides disposed thereon (Claim 1) that can modified to be used as a circuit breaker in electrical power delivery systems (Col. 1, lines 16-20). Hutcherson teaches a two electrode device where electrodes 17 and 17a are held together and pass current as part of a power cable. When current interruption is desired, the two electrodes are moved apart mechanically, drawing an arc between them. This arc heats the hydride materials in the electrodes and raises the gas pressure, helping to extinguish the arc and forming a successful current interruption (Col. 5, lines 35-45).

Regarding claim 1, It would have been obvious to one of ordinary skill in metallurgy, at the time of the invention, taking the disclosures of Hauner, Broverman, and Hutcherson as a whole, to combine Hauner in view of Broverman and Hutcherson to produce an electrical contact material with an unstable metal hydride fraction that release a gas to destabilize an electric arc with a refractory fraction as well.

This is because Hauner teaches contacts for electrical switches and that such switches are expected to have low welding tendency, good corrosion resistance, and long life with respect to switch intensities (Col. 2, lines 15-20) using a refractory fraction of iron oxide while Broverman teaches the addition of metal hydrides to avoid surface deterioration such as erosion or oxidation (Col. 1, lines 3-12) and finally Hutcherson teaches that metal hydrides in an electrode, when struck by an arc, release hydrogen and thus extinguish the arc (Col. 5, lines 35-45). Together Hauner and Broverman produce an electrical contact material with metal hydride and refractory fractions and Hutcherson teaches that such metal hydride additions release a gas, hydrogen, capable of destabilizing the arc formed between such electrodes.

According to Broverman, the hydrogen gas is released by the metal hydride fraction at temperature above about 300 °C (Col. 2, lines 21-37)

Regarding claims 2 and 7, Hauner teaches the matrix of his electrical contact material is silver (Abstract) and includes a refractory metal fraction of iron oxide (Fe_2O_3). Also, Broverman teaches that the electrode may consist essentially of silver in additional to the metal hydride fraction (Col. 1, lines 67-72).

Regarding claims 3-5, Broverman teaches that suitable metal hydrides include zirconium hydride, titanium hydride, lithium hydride, calcium hydride, barium hydride, and yttrium hydride (Col. 2, lines 15-20 and 27-37). Hauner teaches that the refractory iron oxide fraction is present between 1 and 50 wt%. The Examiner holds that this range, when converted to vol%, overlaps the range claimed in claim 5 and thus establishes a prima facie case of obviousness. MPEP 2144.05, para I states: "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists."

Regarding claim 8, Hauner, as stated in the rejections immediately above, teaches the refractory fraction, iron oxide, is present between 1 and 50 wt% in the silver base electrode of his invention while Broverman teaches that the metal hydride fraction may be present from 0-20 vol%. The sum of these fractions overlaps the claimed range of additive material fractions and thus establishes a prima facie case of obviousness.

Regarding claims 21 and 22, Hauner teaches a silver base contact material comprising 1 to 50 wt% iron oxide (refractory fraction) (claim 1) while Broverman teaches the addition of a metal hydride such as titanium hydride to an electrical contact material (claim 1).

Regarding claims 23-30, although these claims have been rejected under 35 U.S.C. 112 2nd paragraph as indefinite, they are nevertheless obvious over the prior art given the Examiner's claim construction by way of the broadest reasonable interpretation. The Examiner takes the broadest reasonable interpretation of the use claims 23-30 to be simply the use of the claimed electrical material as a breaker or

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switch in an electric circuit. Given the material formed by the disclosures of Hauner in view of Broverman and Hutcherson, (claims 23-30 are rejected for the same reasons as obvious) the disclosures of all three of these references suggest the use of the claimed electrical contact material in an electrical circuit as a switch or breaker. Claim 1 of Hauner discloses a silver-base contact material for use in power engineering switchgear, Broverman provides an electrical contact material (title) which is implicitly used to close a circuit, and Hutcherson teaches that his device may be modified to be used as a circuit breaker in electrical power delivery systems (Col. 1, lines 17-21 and Col. 5, lines 39-44).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ramoni: US 2006/0272753

-- Claims 1-5, 7-8, and 21-30 (All pending) are rejected

-- No claims are allowed

The rejections above rely on the references for all the teachings expressed in the text of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the texts of the references. To emphasize certain aspects of the prior art, only specific portions of the texts have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

All recited limitations in the instant claims have been met by the rejections as set forth above. Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121; 37 C.F.R. Part §41.37 (c)(1)(v); MPEP §714.02; and MPEP §2411.01(B).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Shevin whose telephone number is (571) 270-

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3588. The examiner can normally be reached on Monday - Thursday, 8:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark L. Shevin/

/Roy King/

Supervisory Patent Examiner, Art Unit 1793

March 10th, 2008
10-521,036